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Tobusch Fishhook Cactus

Ancistrocactus tobuschii

Federally and State Endangered

* Reproduced from PWD LF W7000-0019B (2/96).

Tobusch fishhook cactus (*Ancistrocactus tobuschii*) was listed as endangered by the U.S. Fish and Wildlife Service (USFWS) in November 1979, and listed endangered by the state of Texas in April 1983. Tobusch fishhook cactus is endemic to the Edwards Plateau of central Texas and is known to occur in Bandera, Edwards, Kerr, Kimble, Kinney, Real, Uvalde, and Val Verde Counties. As of February 1996, a total of 33 naturally occurring populations had been verified within the last 10 years. Additionally, there are 13 historically known populations (i.e., not verified within the last 10 years). Populations are known from both public and private land.

Tobusch fishhook cactus is a small, low-growing member of the cactus family (Cactaceae). This species gets its name from Mr. Henri Tobusch, who, in 1951, was the first person to ever collect the species. “Fishhook cactus” which is the Latin translation of *Ancistrocactus*, is a descriptive term reflecting the long hooked spines which project out from the stem of the cactus resembling a fishhook. The Tobusch fishhook cactus can be very difficult to locate. It tends to grow secretly nestled within grasses, spikemoss, and rock fractures. Because of this cryptic nature, often this species can only be pinpointed when it is blooming. Unlike other flowering plants that are principally identified by flower and fruit morphology, cacti are identified primarily by their spine clusters. Therefore, it is important to look critically at the spines (in addition to other key characters) of a cactus that you think may be a Tobusch fishhook cactus.

Identification

The stem of Tobusch fishhook cactus is usually a solitary, dark green, flattened hemisphere, growing up to 10 centimeters (4 inches) in diameter and height. The stem is covered with pyramidal-shaped projections called tubercles, which range in size from 9 to 12 millimeters (approximately ½ inch) long. Each tubercle has a shallow groove on the upper surface ending at the spine cluster. The tip of the tubercle where the spines originate is called the areole. The spines are yellowish, sometimes red-tipped, and turn gray with age. Although difficult to discern in the field, the spines are also covered with microscopic hairs. There are two types of spines: the inner or central spines; and, the outer or radial spines. There are 3 to 5 central spines and 7 to 9 (to 12) radial spines per areole. The central spines tend to project three-dimensionally from the stem of the cactus whereas the radial spines lie in a flat plane beneath the centrals. Of the three to five central spines, the upper two form an erect “V”. These spines are up to 4 centimeters (1 ½ inches) long. Sometimes one or two smaller centrals will come up in the middle of the “V”, giving the appearance of a “W”. The lower perpendicular or ascending central spine is stout, up to 2.5 centimeters (1 inch) long, with sharp hooked tip. The straight, needle-like radial spines are shorter than the central spines (1.5 to 2 centimeters or approximately ¾ inch long) and spread irregularly from the areole.



Figure 1. Tobusch fishhook cactus. Note yellow petal and stigma color.

Reproduction

Flowering of the Tobusch fishhook cactus can begin as early as mid-January in the southern-most populations, with populations throughout the range in full flower in February. Flowering ends by late March. The flowers are clear, bright yellow, although sometimes they may be a creamy yellow or yellowish-green (especially upon opening), turning golden-yellow with age. Within the flower, the stigma sits higher than the stamens. The stigma has 5 to 9 lobes which are green, yellow or whitish. The filaments (the stems of the stamens) are cream to yellowish in color, and the anthers are pale orange to golden yellow.

The elongate, egg-shaped fruits are green with a rosy pink tinge and are fully mature by May. The fruits are approximately 2.5 centimeters (1 inch) long with 2 to 6 small scales. Within the fruit are approximately 30 to 60 tiny black seeds and pulp. Almost immediately after a mature fruit splits open, small reddish-brown ants (usually *Forelius foetidus*) swarm the ripe fruits and transport seeds and pulp great distances from the plant to their mounds. These tiny ants may account for as much as 85% of the seed dispersal of the species. The remaining 15% of seeds are dispersed near the plant mostly by gravity and rain. A very small percentage of the seeds are dispersed by mammals and birds that have eaten the fruits.

The Tobusch Fishhook Cactus Imposter

Don't be fooled. An extremely similar species occurs with Tobusch fishhook cactus on the western edge of its distribution – *Ancistrocactus brevihamatus*. Although *A. brevihamatus* is usually taller, with a more pronounced globular or columnar stem at maturity, seedling and juvenile stage. *A. brevihamatus* can, at first glance, look like Tobusch fishhook cactus. *A. brevihamatus* has 4 to 6 central spines, and 12 to 14 radial spines. Although *A. brevihamatus* generally has more spines per tubercle than Tobusch fishhook cactus, the spine number overlap creates confusion. The easiest way to distinguish



Figure 2. *Ancistrocactus brevihamatus* (Left) and *Ancistrocactus tobuschii* (Right) can be confused with each other. Note the difference in petal & stigma color.

between the two species is when they are flowering. The flowers of *A. brevihamatus*, which do not open completely, are greenish with an olivaceous-rosy hue or overtone. The flowers of Tobusch fishhook cactus, which will eventually open completely, are a bright, clear greenish-yellow to golden-yellow color. Additionally, *A. brevihamatus* has 10 to 11 pinkish stigma lobes and pinkish filaments, as compared to *A. tobuschii*, which has 5 to 9 whitish-yellow stigma lobes and whitish-yellow filaments.

Habitat

Tobusch fishhook cactus habitat consists of patchy openings scattered within a mosaic of woodlands, shrublands, and grasslands. Tobusch fishhook cactus tends to occur on very shallow gravely soil over flaggy limestone within openings among live oak-juniper woodlands. Such sites are usually open with only herbaceous cover such as grasses and forbs, although individual Tobusch fishhook cacti may be somewhat protected by rocks, grasses, or spikemoss (*Selaginella spp.*). The soils are moderately alkaline, rocky loams, clay loams, or clays classified as the Tarrant, Ector, or Eckrant series. Habitat geology tends to be fractured limestone, usually of the Edwards or an equivalent formation. Typical plant communities at these sites are curly mesquite-sideoats grama, ashe juniper-oak, and pinyon pine-oak. Habitat sites are usually on level to slightly sloping hill or ridge tops, and occasionally on ledges or other relatively level areas on steeper slopes. Infrequently, this species also occurs along floodplains and gravels along creek bottoms.



Figure 3. Tobusch fishhook cactus typical habitat - rocky openings within oak-juniper woodlands.

How can you help?

Today, Texas Parks and Wildlife Department is taking an in-depth look into the status of Tobusch fishhook cactus. Recently we began receiving reports that this species may not be as rare as we once thought. We would like to invite anyone who is interested to help us gather information on the occurrences of this secretive cactus. Please call us if you have any information that you think would be helpful to our

study. With each new population that we can verify, the closer we are to being able to recover and delist this species.

Please contact:

Jackie M. Poole &/or Gena K. Janssen
Endangered Resources Branch
Texas Parks and Wildlife Department
300 IH 35 South, Suite 100
Austin, Texas 78704
1 (800) 792-1112
(Press ext. 71 anytime during recording)
1 (512) 912-7011

